# Computing, Computer Science and Information Technologies

In over 20 years of teaching I don't think that I have ever seen the need for everyone to develop a robust set of IT skills as required now. I am not surprised at the resilience and adaptability that our learners have displayed in adapting to new ways of working using technology in these strange times.

The end of March in year 10 was a significant milestone in year 10 for both Computer Science and Information Technologies. It marks the point where both courses have completed the exam 'knowledge' and we move to preparing for project work.

In the case of Information Technologies this means practising a project with the real unit R013 taking place in September of year 11 being worth 50% of the final mark.

Work for Information Technologies has consisted of working through a previous exam task providing solutions to the set problem and following the Project Lifecycle model that the course is built around. Students are given a set of data and free rein to choose how to solve the the problem. The example on the right is a good attempt using a spreadsheet to find a solution.
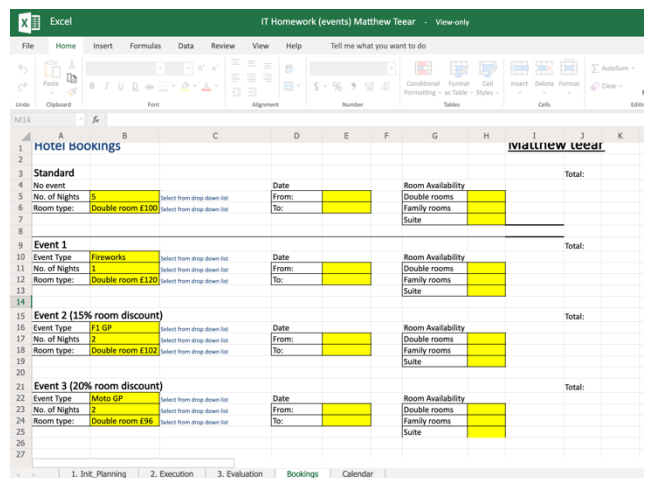
Computer science is different with the requirement for a 20-hour programming project not counting towards a final grade but providing an excellent opportunity to prepare for paper 2. Fortunately, the taught element for both papers was substantially complete by the time we went into lockdown.

The work set for year 10 is to prepare to develop their programming skills in the Python programming language. In school this is achieved through all of the computers being identical and running the same software. We have bought in a Package from Dynamic Learning (DL). Each student has their own account on DL and work has been set on there. An advantage to this way of learning is that it allows for supported skills development at the pace of the learner. The example on the left is a completed Gold challenge task and demonstrates a well-developed solution.

KS3

KS3 work is based on preparing for a variety of scenarios. Some students will move to choose Computer Science or IT and others won't at KS4. The work is available on the link https://sites.google.com/view/teccks3 and covers a variety of skills from spreadsheets to computer programming.

At the time of lockdown, year 7 were just embarking on a programming project using the excellent Scratch software. This started by following a tutorial to create a pacman game and is completed by developing an individual game. I have been amazed at the creativity of some of the games completed, and I know that more are in preparation as the deadline for this work is not here yet. Students have the ability to publish their games for others to play online and one example is shown on the right.
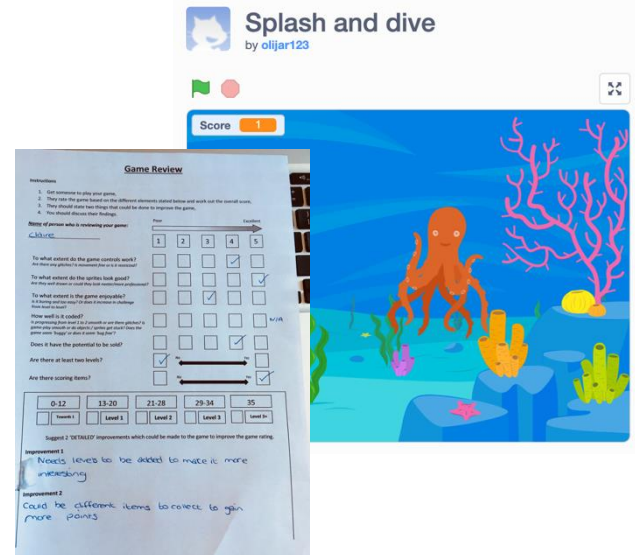
Year 8 were working through building websites in school, using a software package in school. Unfortunately, this isn't replicable at home, so they have moved onto starting to learn to code using Dynamic Learning. The facility here allows for development from the Scratch block coding to coding in the text-based language Python. I have produced some video tutorials here to help with this development:
https://sites.google.com/view/teccks3/pseudocode-python
These provide support through the first stages of these tasks and allow for personal development of the skills. This is new software and there have been some teething problems that DL assure me are being fixed. One of which is the work doesn't always appear in the student area. If that has happened to you, please email me directly.
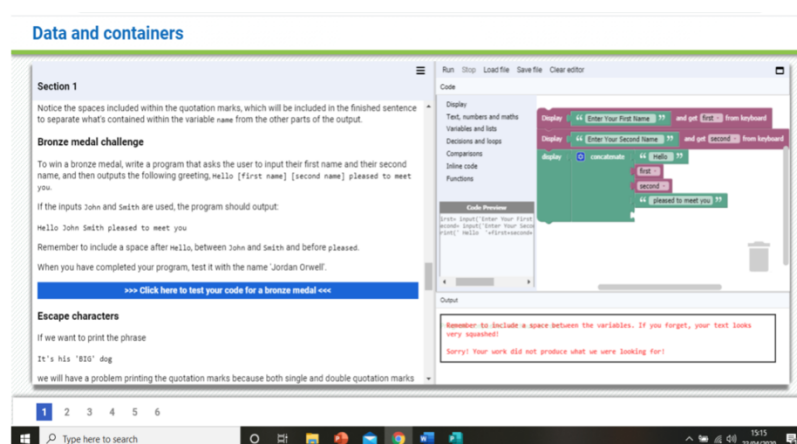
Year 9 have completed projects on careers in IT. In preparation for year 10 this term we are moving onto a refresher with basic office skills starting with word processing. An example is shown below. This work is based on the European Computer Driving Licence that many parents may have completed. An example from the first formatting task is shown below

HILL WALKING FOR AMATEURS

A weekly information sheet based on providing essential hill-walking help and advice to hill-walking enthusiasts all over the country.

This week sees our resident expert, Marie Aspell, expound on some essential and valuable hill-walking hints and tips for the upcoming summer season.

Hill Walking tips for summer:

Get hiking boots one size bigger than your normal shoe size, as intense swelling of the feet may occur.

Wear appropriate clothing to suit weather conditions.

Make sure that adequate amounts of water are taken as dehydration can occur during warm summer months.

Warmest summer months for hill walking	Degrees Celsius
June	20
July	25
August	24

I look forward to seeing the skills developed across the spectrum of my subject being used in work from the whole curriculum. Hopefully we will be back to some normality in the near future. In the meantime, stay safe. Mr Hardy